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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RICHARD F. ANNICCHIARICO, DAVID S. KERN,  
and ROBERT J. PAGANETTI

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Appeal 2016-005843  
Application 12/266,470  
Technology Center 2400

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Before JOHN A. JEFFERY, DAVID M. KOHUT, and  
JEREMY J. CURCURI, *Administrative Patent Judges*.

CURCURI, *Administrative Patent Judge*.

DECISION ON APPEAL

This application returns to us after we affirmed the Examiner's decision to reject then-pending claims 1–17. *See Ex parte Annicchiarico*, No. 2012-003916 (PTAB July 23, 2014), *reh'g denied* (PTAB Oct. 1, 2014). Prosecution reopened after that decision, and Appellants now appeal under 35 U.S.C. § 134(a) from the Examiner's subsequent rejection of claims 1–17. Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

Claims 7–11 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 3.

Claim 1–17 are rejected under 35 U.S.C. § 103 as being obvious over Frisch (US 2008/0159543 A1; Jul. 3, 2008) and Goodman (US 2008/0065882 A1; Mar. 13, 2008). Final Act. 4–11.

We affirm.

## STATEMENT OF THE CASE

Appellants' invention relates to "seal management for encrypted data." Spec. ¶ 1. Claims 1 and 7 are illustrative and reproduced below:

1. A method for extensible seal management for encrypted data, the method comprising:

loading by program code of a seal management module executing in memory of a computer, a seal list of multiple different seal hints of different seal hint formats for different seals, each of the seal hints containing a hint as to which key was used previously to encrypt a corresponding one of the different seals;

selecting by the program code from amongst the multiple different seal hints, a seal hint of a seal hint format that is recognizable by the program code of the seal management module;

filtering the seals in the seal list by the program code of the seal management module according to the selected seal hint to a subset of the seals corresponding to seal hints that are recognized by the program code of the seal management program code;

attempting decryption of the filtered seals with a decryption key specified by the selected seal hint to decrypt one of the filtered seals in order to reveal a bulk key; and,

decrypting the encrypted data with the bulk key.

7. A data processing system configured for extensible seal management for encrypted data, the system comprising:

an extensible seal management module coupled to data decryption logic for a data processing application executing in a host computing platform, the module comprising program code enabled to:

load by the program code of the module, a seal list of multiple different seal hints of different seal hint formats for different seals, each of the seal hints containing a hint as to which key was used previously to encrypt a corresponding one of the different seals,

select from amongst the multiple different seal hints, a seal hint of a seal hint format that is recognizable by the program code of the seal management module,

filter the seals in the seal list according to the selected seal hint to a subset of the seals corresponding to seal hints that are recognized by the program code of the seal management module, and,

attempt decryption of the filtered seals with a decryption key specified by the selected seal hint to decrypt one of the filtered seals in order to reveal a bulk key for use by the data decryption logic in decrypting the encrypted data.

## ANALYSIS

### THE 35 U.S.C. § 101 REJECTION OF CLAIMS 7–11

The Examiner rejects claims 7–11 as directed to non-statutory subject matter. Final Act. 3. In particular, the Examiner concludes claims 7–11 are directed to software per se. Final Act. 3.

Appellants present the following principal argument:

[C]laim 7 recites not only an “extensible seal management module” but also “data decryption logic”, a “data processing application” and a “host computing platform” in which the data

processing application executes.” The module is defined to include program code that is enabled to perform a number of steps several of which interoperate with the data decryption logic.

App. Br. 7–8; *see also* App. Br. 8–9 (Examiner’s conclusory statements are not supported) *and* Reply Br. 2–4.

In response, the Examiner explains “under broadest reasonable interpretation, the claimed ‘extensible seal management module’ is nothing more than program code, or software per se.” Ans. 3. The Examiner further explains:

The appellant argues that claim 7 also recites the use of “data decryption logic”, a “data processing application”, and a “host computing platform”. First, it is noted that none of these elements are positively recited in the claim as being part of the claimed system, or as performing any function within the system. Second, even if these elements were positively recited, each of these three elements is reasonably interpreted as software in and of itself. The Office does not interpret the terms “logic”, “application”, or “platform” as necessarily including any specific hardware. These terms are interpreted, as they would be by one of ordinary skill in the art, as software. The examiner could not find any indication in the appellant’s specification that these terms represent anything more than software, nor that they are necessarily limited to inclusion of some hardware.

Ans. 3–4.

We agree with the Examiner’s conclusion that claims 7–11 are directed to non-statutory subject matter.

Claim 7 positively recites “an extensible seal management module coupled to data decryption logic.” We consider both the “extensible seal management module” and the “data decryption logic” as being positively recited.

Appellants’ Specification (¶ 23) discloses

Embodiments of the invention can take the form of an entirely hardware embodiment, an entirely software embodiment or an embodiment containing both hardware and software elements. In a preferred embodiment, the invention is implemented in software, which includes but is not limited to firmware, resident software, microcode, and the like.

In light of Appellants' Specification, we conclude that the broadest reasonable interpretation of "an extensible seal management module coupled to data decryption logic" includes software per se because the "module" and the "logic" do not require any structure. Further, the "data processing application" and "host computing platform" are not positively recited; rather, they are recited as part of an intended use for the "extensible seal management module" and the "data decryption logic."

We, therefore, sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 7–11.

#### THE OBVIOUSNESS REJECTION OF CLAIMS 1–17 OVER FRISCH AND GOODMAN

The Examiner finds Frisch and Goodman teach all limitations of claim 1. Final Act. 4–6.

Appellants present the following principal argument:

Paragraphs ¶¶ 33 and 38 of Goodman do not teach a seal hint containing a hint as to which key was used previously to encrypt a corresponding one of the different seals. *See* App. Br. 11–13. "[P]aragraph [0033] of Goodman pertains to key label defined to be an alias, name, signature, hash, or identifier that is used to identify a particular encryption key or keys." App. Br. 12.

Paragraph [0038] of Goodman provides for 'media encryption status' which indicates a key label associated with removable storage media. **Combining Frisch with Goodman, then, a**

**teaching is provided of the retrieval of a hint that identifies a key used to encrypt data--not the claimed hint as to which key was used previously to encrypt a corresponding one of the different seals.** Thus, the Examiner has omitted consideration of the essential element of “seal hints containing a hint as to which key was used previously to encrypt a corresponding one of the different seals”. Instead, Examiner has only accounted for a hint that identifies a key used to encrypt data.

App. Br. 12–13; *see also* Reply Br. 9–10.

Appellants’ arguments do not show error in the contested finding of the Examiner. Nor do Appellants’ arguments show error in the legal conclusion of obviousness of the Examiner.

In reaching our decision, we emphasize that the Examiner’s findings with respect to Frisch are not contested. The Examiner finds Frisch discloses:

a seal list (paragraph 36, list 56 of keys associating a public key for each key identifier) of multiple different seal hints (paragraph 36, list 58 of methods for retrieving the public key) of different seal hint formats (paragraphs 42-46, each method P has a different format) for different seals (paragraph 36, keys), each of the seal hints containing a hint *as to how* a corresponding one of the seals was encrypted (paragraph 36, methods for retrieving the public key)[.]

Final Act. 4 (emphasis added). We adopt this finding as our own.

Regarding the contested finding with respect to Goodman, the Examiner finds Goodman teaches the recited (emphasis added) “hint *as to which key* was used previously to encrypt a corresponding one of the different seals.” Final Act. 5 (citing Goodman ¶¶ 33, 38). The Examiner reasons:

[I]t would have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to modify the system of

Frisch by adding the ability for the seal hints containing a hint as to which key was used previously to encrypt a corresponding one of the different seals as provided by Goodman (see paragraphs 33 and 38, encryption method indicates particular key labels, where key label is used to identify encryption key). One of ordinary skill in the art would have recognized the benefit that utilizing KEKs would provide improved security to data keys (see Goodman, paragraph 19).

Final Act. 5. We agree with and adopt this finding and these reasons as our own, and we concur with the Examiner's conclusion.

Put another way, on this record, it is uncontested that Frisch discloses a hint *as to how* a seal was encrypted; but, Frisch's hint does not specifically hint *to an encrypting key*. See Final Act. 4–5. Goodman (¶¶ 33, 38) teaches an identifier to identify an encrypting key — a hint as to an encrypting key. The Examiner articulates some reasoning, with a rational underpinning, as to why Goodman's hint would have been incorporated into Frisch's system. See Final Act. 5. We see no error in the Examiner's reasoning.

Regarding Appellants' argument, Appellants characterize the prior art as identifying a key used to encrypt data. See App. Br. 12–13. However, as explained above, Frisch's methods are a hint as to how a seal was encrypted; Goodman's identifier is a hint to an encrypting key; collectively, the references teach a hint to an encrypting key for a seal. See Final Act 4–5; *see also* Ans. 4–5 and Goodman ¶ 33 (emphasis added) (“key labels are all used to refer to one or more keys that may be used for encrypting and/or decrypting data *or other keys*”).

We, therefore, sustain the Examiner's rejection of claim 1, as well as claims 2–17, which are not separately argued with particularity.



DECISION

The Examiner's decision rejecting claims 1–17 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED